

**REMARKS**

Reconsideration of the present application in view of the foregoing amendments and the following remarks is requested respectfully.

Applicants acknowledge with appreciation the kind telephone interview with the Examiner on August 1, 2001.

**I. STATUS OF CLAIMS**

Claims 1-13, and 15-18 are presented. Claim 18 has been added. Claims 2, 10 and 11 have been amended, and no claims have been cancelled. Original claim 14 is support for claim 18. Support for the amendment to claim 2 is found in original claims 10 and 11 as well as throughout the description. The amendments to claims 10 and 11 are adequately supported by the original disclosure. A clean set of the claims as amended is attached hereto.

**II. THE § 112 REJECTION**

Claims 10-11 and 15-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants have amended claims 10 and 11 to replace "including" with "consisting essentially of". Accordingly, applicants submit respectfully that the Section 112 rejection of the claims has been addressed in full and has now been rendered moot.

### III. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

#### A. Summary Of The Claimed Invention

The present invention as now claimed relates to a process for modifying the properties of particulate dietary fiber material by dispersing said particulate material in a liquid media, applying an abrupt pressure change by mechanical means to the particulate material in the liquid media, and recovering the modified material. In certain other embodiments the process also comprises drying the modified fiber (see, e.g., claims 3, 7 and 8). In certain embodiments of the present invention, the process comprises modifying the water and oil holding capacities of the dietary fiber materials (see, e.g. claims 2, 10 and 11). In certain embodiments of the present invention, the process reduces the water holding capacity and oil retention properties of certain dietary fibers (see, e.g., claim 10), while in other embodiments, the process increases the water holding capacity and oil retention properties of certain other dietary fibers (see, e.g., claim 11). Certain embodiments of the present invention also render the modified dietary fibers resistant to changes in their water absorption properties (see, e.g., claim 12), and increase the total dietary fiber content of the dietary fiber material so modified (see, e.g., claim 13). New claim 18 essentially represents cancelled claim 14 and presents a group of materials from which the dietary fiber materials may be derived. Claims 15 to 17 define modified dietary fibers produced by the claimed process.

#### B. The § 102 Rejection

Claims 1, 3-4, 6, 7, 9 and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Redding Jr. (U.S. Patent No. 5,455,342) ("the '342 patent"). The § 102(b)

rejection is traversed respectfully.

The '342 patent is directed to the pressure pulse treatment of polymers, including natural polymers. While applicants admit that dietary fibers contain and are constructed from polymeric materials, the opposite is not true. Dietary fibers consist of the roughage component of grains and wood products. Consequently, the dietary fiber has microscopically visible structure based on its source, which structure is believed to be present in the vast majority of dietary fiber products that are commercially available. And although such structure comprises a variety of polymeric species, these polymers, alone, comprise only the building blocks of the dietary fibers defined in the claim.

The '342 patent discloses that natural polymers may be processed in accordance with the '342 patent disclosed method. However, the '342 patent contains no suggestion that the polymer so treated be provided in the form of dietary fiber. Since there is no such dietary fiber disclosure in the '342 patent, the '342 patent falls short of being an anticipatory reference. Applicants therefore request respectfully that the Section 102 rejection of the claims be withdrawn.

**C. The Presently Claimed Invention is Patentably  
Non-obvious Over the Disclosure of the '342 Patent  
in View of the Secondary References**

Claims 2, 5, 8-10, 12-13 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the '342 patent in view of the Polymer Handbook; and claims 11 and 17 stand rejected over the '342 patent in view of Fennema [FOOD CHEMISTRY}. These rejections are traversed respectfully.

All of the aforesaid rejected claims as now amended recite a method for modifying specific properties of dietary fiber materials, in particular, water and/or oil holding capacities, the temperature dependency of such properties, and the overall dietary fiber content of such material.

The primary reference, the '342 patent, is lacking in any disclosure or suggestion that polymers, entrapped in the form of dietary fiber, be processed in accordance with its disclosed methods. Furthermore, the '342 patent contains no suggestion that polymers, even the natural polymers disclosed therein, may be processed and result in the modification of water-holding, or oil-holding properties, or impart a temperature-resistance to such properties or increase the dietary fiber content itself. This deficiency in the '342 patent cannot be overcome by the Polymer Handbook or the Fennema references. Applicants cannot uncover any disclosure or suggestion in these secondary references that the processing of dietary fiber materials could, would, or should result in modification of the properties recited in the claims as presently amended. Absent such a disclosure or suggestion, the Examiner has not made out a *prima facie* obviousness rejection.

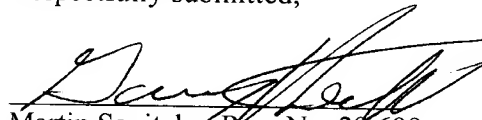
Accordingly, it is respectfully submitted that the Examiner's rejection of the claims based on § 103(a) should be withdrawn.

### III. CONCLUSION

In view of the foregoing amendments and remarks, favorable reconsideration and prompt notice of allowance of all of the pending claims are requested respectfully.

Should the Examiner continue to have any doubts as to the allowability of any of the claims, he is requested respectfully to telephone the applicants' undersigned attorney to discuss the same before issuing further action, as it is believed such discussion would help to expedite the prosecution of this application.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Martin Savitzky", is written over a horizontal line.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

2. (Twice amended) The process of claim 1 wherein said properties are water and oil holding capacities. [abrupt pressure change by means of a piston driven by a compressive air force of about 60 to about 90 psi in about 0.1 to 0.2 sec.]

10. (Twice amended) A process to reduce the water holding capacity and oil retention properties of dietary fibers consisting essentially of indigestible fiber selected from the group [including] consisting essentially of dietary cellulose and wheat fibers, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said reduced properties.

11. (Twice amended) A process to increase the water holding capacity and oil retention properties of dietary fibers consisting essentially of indigestible fiber selected from the group [including] consisting essentially of dietary soy, wheat bran, oat and oat hull, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said increased properties.

CLEAN SET OF CLAIMS

1. (Twice amended) A process for modifying the properties of a particulate dietary fiber material consisting essentially of indigestible fiber derived from natural grains and wood products, comprising dispersing said particulate material in a liquid media, applying an abrupt pressure change by mechanical means to said particulate material in said liquid media, and recovering said modified fiber material.
2. (Twice amended) The process of claim 1 wherein said properties are water and oil holding capacities.
3. The process of claim 1 further comprising drying said modified fiber.
4. The process of claim 3 further comprising subjecting said recovered fiber to mechanical action sufficient to reduce particulate agglomeration.
5. The process of claim 1 wherein said liquid media contains about 10 to about 25 percent by weight of said fiber material.
6. The process of claim 1 wherein said liquid media is subjected to said abrupt pressure change at a temperature of about 25 degrees centigrade.
7. The process of claim 3 wherein said modified fiber is dried at a temperature greater than 25 degrees centigrade.
8. The process of claim 7 wherein said modified fiber is dried at a temperature of about 70 degrees centigrade.
9. The process of claim 3 wherein said modified fiber is recovered by allowing suspended particles to settle and decanting the liquid media.
10. (Twice amended) A process to reduce the water holding capacity and oil retention properties of dietary fibers consisting essentially of indigestible fiber selected from the group consisting essentially of dietary cellulose and wheat fibers, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said reduced properties.

11. (Twice amended) A process to increase the water holding capacity and oil retention properties of dietary fibers consisting essentially of indigestible fiber selected from the group consisting essentially of dietary soy, wheat bran, oat and oat hull, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said increased properties.
12. (Twice amended) A process to prepare a dietary fiber material consisting essentially of indigestible fiber and having water absorption properties that are resistant to change due to temperature increases comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said resistant properties.
13. (Twice amended) A process to increase the total dietary fiber content of a dietary fiber material consisting essentially of indigestible fiber, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi for about 0.1 to 0.2 sec. and recovering a modified fiber having said resistant properties.
15. (Once amended) A modified dietary fiber made by the process according to any one of claims 1, 10, 11, 12 or 13.
16. A modified dietary fiber having reduced water and oil holding capacities prepared according to claim 10, wherein said fiber is selected from the group consisting of cellulose and wheat fiber.
17. A modified dietary fiber having increased water and oil holding capacities prepared according to claim 11, wherein said fiber is selected from the group consisting of soy, wheat bran, oat and oat hull fibers.
18. (NEW) The process according to claim 1 wherein said particulate dietary fiber material is derived from the group consisting of apple fiber, bran fiber, fig powder, barley bran flour, barley four, high protein, barley fiber brewer's spent grains, oat bran, oat fiber



barley, rice, malted germ, pea fiber, bleached corn fiber, powdered cellulose, carrageen gum cellulose gum, prunes, citrus fiber, rice bran, de-fatted cocoa, rice bran-stabilized, corn bran, rice fiber, corn fiber, cellulose fibers, sodium carboxymethyl cellulose, corn flour, soy fiber, corn husks, sugar beet fiber, dried cranberries, wheat bran de-fatted, wheat germ, wheat fiber, oat husks, wheat flour, peanut flour, microcrystalline cellulose, combinations of any number of the above fibers, blends of above fibers in a raw state with their pressure treated versions.